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INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES IN SOUTH-EASTERN NIGERIAN UNIVERSITIES

P.C.C ANYIM

Chartered Professional Examinations Board, Aba Tutorial Centr, Abia State, Nigeria

Abstract

This paper investigates information and Communication Technology Facilities in the Universities in South – Eastern Nigeria. It is a descriptive survey. A sample of 1568 student representing 0.05% was selected from a population of 31, 352 students through stratified proportionate representation. A 38-item, 4-point Liker scales instrument titled information communication technology questionnaire (ICTQ) was used collect data for answering the 2 research the null hypotheses. The instrument was validated by experts. Test re-test method was used to establish reliability co-efficient using person's product moment correlation at 0.76. Mean and standard deviation were used to answer the research questions; z-test used to test the hypotheses at 0.05 level of significance. Findings were that computer and DVD RW are fairly available and concluded that there is awareness of ICT in South- Easter Nigerian Universities. It was recommended among others that ICT facilities should be adequately provided in the South-Eastern Nigerian Universities to enhance leaving.

Keywords: Information, Communication, Technology, Facilities, Universities

1. Background to the Study

The term Information Communication Technology (ICT) evolved from information Technology (IT) when the processing of information with electronic technology integrated with telecommunication technology. Information Communication Technology as it is popularly known is defined as the totality of technological electronic means, tools and resources used for collecting, storing, processing, managing, communicating and presenting information to end-users in support of their activities. Nwachukwu (2008) observe that ICT came into existence in Nigeria in the early 1963. Its facilities include computer system, office systems, consumer electronics; network information infrastructure that involves GSM phones, internet, Smart Boards, Web cam, Cam coders, CD RW, Visual Library, Multimedia and Projector.

The challenge of integrating information and communication Technology into University education is to realize the needs of the students are the needs of the Universities. In this connection, the success of ICT in Nigerian University classrooms would depend on the extent to which the needs of the University students are met during preparation.

As a starting point, one would expect a proper comprehensive structure to be in place when we talk about ICT resources or facility allocation. One of the appropriate structures expected in the University is the centre for educational technology. The centre services lecturers to package audio-visual based pedagogy. This is actualized with existing audio-visual lecture rooms. The product contained in audio-visual rooms would be hardware (e.g Web Cam, Visual Library, Smart Board, Multimedia Projector, ipod, computer and Cam coders) and software (e.g CD R, DVD RW loaded with instructional contents).

Mackinnon (2002) maintains that lecturers need to make informed choices relating to pedagogical approach, students' needs and learning objectives. It is based on this that technology can be successful.

According to this authority, two different models of teaching and learning are relevant when integrating ICT pedagogically. These are directed instruction (drill, practice and tutorials) and construction (problem-solving, multimedia and telecommunication). It is implied that technology worthiness in a given lesson is crucial.

When research studies are examined in respect of integrating ICT into student training, the question is, are all the stakeholders clear on the term integration and better skill? What is the position of practicing University teachers concerning ICT's in Nigerian University Classrooms?

As Tardif (2002) puts it, University trainers rarely make the object of their own research or even the subject of a data-based discourse about of their own presentations and practices. One thing is certain and that is reforms in teacher education in respect of ICTs may not bring about real change if students trainers are not trained and professionally developed in educational software. Paramount to all these shifts is how effective teaching and learning can be delivered in these institutions.

With the general view that teachers continue to teach the way they were taught, any change expected in classrooms should start with student trainers' re-orientation. For the 21st century, teacher developments in ICT facilities are inevitable for effective teaching and learning. According to Hoy & Miskel (1982), an organization is effective if the observable outcomes of its activities meet or even exceed organizational goals. All efforts at innovation and change are motivated by the desire for effectiveness. Quite often, organizations, particularly educational organizations resist change. Change is an inevitable aspect of life, without change life will become static and boring. Educational change relates to nay alterations in the existing trends whether in terms of goals input or processes or the terms of policies, practices and procedures. By and large, most change in education are in terms of adaption, that is the adoption of the old ideas and practices that fit new age, new circumstances, new demands and new society. A change may be positive or negative, desirable or undesirable. Much depends on the efforts to plan and direct the change. Thus, the direction and rate of change must always be controlled for it to lead to the ultimate effectiveness.

Technology has advanced devices for improving information processing and meaningful communication between teacher and learner with less stress. Much of the applications encompass devices like video, computer, micro computer, interface laboratory equipment, internet services, and so no. while UNESCO (2002) is attempting to harness new ICTs to help achieve Education

for All (EFA) goals, it is also timely to examine how much of ICT literacy and support are possessed by student trainers.

UNESCO (1980) asserts that information has come to stay as a veritable resource in management of organizations. The possession of information and the ability to handle them well give the possessor power and influence over and above the authority he may be legally vested with". In fact it has been established that power and influence flow to those who know more and have access to better information. This is why many managers have held the view that contemporary managers would not achieve meaningful progress in the management of complex organizations without a strong information system support. It is not surprising then that to maintain that modern organization's ability to achieve results and the decision making efficacy of contemporary managers is no longer dependent on just the quality of the manager but more importantly is a function of the quality of information channels feeding and transmitting their actions into the system.

No one can dispute the fact that University education has become more complex and hence its management more demanding of managers.

In Nigerian University classrooms, the ratio of students of computer is 12 students to 1 computer while lecture is to 10 students (Source: Draft strategy for the use ICT in learning and teaching, condensed version).

With the students explosion in Universities and the multiplicity of programmes, Universities are required to handle large volume of data which they must process speedily to provide information for their management decision making as well as meeting the information requirement of her various clientele, namely, the students, the parents, the government, the informational community and the general public.

Globalization quest for quality, market competitiveness have posed more challenges to the management of Universities in recent time. In a bid to squarely face the challenges and be adjusted to the changing world overwhelmed with knowledge explosion, ICT becomes an indispensable part of higher educational administration. As the number of colleges and Universities and students enrolment grow, the faculty is being exhorted to integrate ICT facilities into their institutional and instructional activities. The ability of University management to achieve this has always determined the survival and development of such universities.

Therefore, there is need for effective and efficient use of ICT to generate information for good decisions and productivity. And there should be state of the art ICT facilities in the universities. It is against this background that this study surveys the availability of these ICT facilities that will enhance effective teaching and learning in the Universities.

2. Statement of the Problem

Teaching is the major function of very academic staff in tertiary educational institution. Effective teaching is sine qua non to effective learning. No effective teaching and learning can take place without facilities in tertiary educational institutions. Information Communication Technology (ICT) has replaced the manual method of teaching and learning.

The Nigerian Universities in recent years have witnessed increased students enrolment most times, lecturers complain of high student-teacher ratio. Such increased enrolment requires facilities that will assist the lecturers as well as the students enhance and facilitate teaching and learning. The problem of this study therefore borders on the extent of availability of ICT facilities, extent of its adequacy and of its utilization and factors militating against its utilization in the universities in South-Eastern Nigerian.

3. Purpose of the Study

The main purpose of the study is to find out the availability of ICT facilities in the Universities in South Eastern Nigeria. Specifically, based on the issues raised in the statement of the problem, the purpose of this study is to:

1. Determine the effect of availability of ICY facilities in the Universities in South-Eastern Nigeria.
2. Find out the extent to which the ICT facilities are adequate for effective teaching and learning in Universities in the South-Eastern Nigeria.

4. Research Questions

The following research questions were answered:

1. To what extent are ICT facilities available in Universities in South-Eastern Nigeria?
2. What is the adequacy of ICT facilities in Universities in South-Eastern Nigeria?

5. Research Hypotheses

The following hypotheses were tested:

- H₀1: There is no significant difference between the mean scores of lecturers and students on the extent to which ICT facilities are available in Universities in South-Eastern Nigeria.
- H₀2: There is no significant difference between the mean scores of lecturers and students on the adequacy of ICT facilities in Universities in South-Eastern Nigeria.

6. Methodology

It was a descriptive survey design which has been accepted as a useful tool for describing existing conditions and for evaluating ICT facilities in South-eastern Nigerian Universities. All the 28916 final year students and 2436 lecturers giving a total of 31352 from 9 universities made up the population. A sample of 1446 final year students and 122 lecturers representing 5% of the total number from 2 Federal and 3 State Universities were selected from a total of 9 Universities. This was through a stratified random sampling technique.

A 2-part, 38-item, 4-point Likert instrument titled, "Information Communication Technology Questionnaire (ICTQ) was used to collect data for answering 2 research questions and for testing 2 null hypotheses. The content and face validity of the instrument were established by a team of experts from the Department of Educational management, University of port-Harcourt. The

instrument was subjected to test re-test reliability using Pearson's product moment correlation that yielded an $r=0.76$. The researchers administered the instrument, retrieved some on the spot and some were collected on an agreed date.

Means and standard deviation were used to answer the research questions. The hypotheses were tested using z-test.

7. Results

Research Question 1: To what extent are ICT facilities available in the Universities in South Eastern Nigeria?

Table 1: Means and Standard Deviation scores of lecturers and student on the Availability of ICT facilities in the Universities in South Eastern Nigeria.

	Availability of ICT Facilities	Students		Lecturers		Remarks
1.	Smart Board	1.55	0.70	0.50	0.74	Rejected
2.	16mm film	1.82	0.82	1.84	0.78	Rejected
3.	Internet	2.73	1.34	2.46	1.36	Rejected
4.	Computer	2.81	1.27	2.54	1.16	Accepted
5.	Slide projector	2.15	0.89	1.94	0.93	Rejected
6.	Radio	2.54	1.11	2.12	0.80	Rejected
7.	Television	1.90	0.96	2.07	0.97	Rejected
8.	Digital camera	2.50	0.79	1.85	0.73	Rejected
9.	Virtual Library	1.80	0.86	2.32	1.03	Rejected
10.	Fan Machine	1.69	0.69	1.94	0.79	Rejected
11.	Camcorder	1.80	0.73	1.61	0.74	Rejected
12.	Multimedia	1.83	0.70	1.85	0.61	Rejected
13.	Language Library	2.25	0.66	1.73	0.69	Rejected
14.	CD Rom	2.23	0.71	2.01	0.72	Rejected
15.	CD RW	2.18	0.88	2.41	1.03	Rejected
16.	DVD Rom	2.18	0.93	2.46	1.06	Rejected
17.	DVD RW	1.76	0.70	2.58	0.73	Accepted
18.	M.P.9	2.21	0.62	1.66	1.68	Rejected
19.	Audio Cassette Player		0.95	1.78	.052	Rejected

Table 1 reveals that both lecturers and students accepted that only the computer and DVD RW were the ICT facilities available to some extent in their universities because the mean scores of both items fell above the criterion mean of 2.50. However, all other items were rejected as being available because their mean scores fell below the criterion mean of 2.50.

Research Question 2: What is the adequacy of ICT facilities in the Universities in South-Eastern Nigeria?

Table 2: Means and Standard Deviations of students and Lecturers on the Adequacy of ICT facilities in the Universities in South Eastern Nigeria.

Availability of ICT Facilities		Students		Lecturers		Remarks
S/NO	Adequacy of ICT Facilities	Mean	S.D	Mean	S.D	
1.	Smart Board	1.99	1.09	2.33	1.28	Rejected
2.	16mm film	2.14	0.98	2.18	1.08	Rejected
3.	Internet	2.66	1.18	1.81	1.33	Accepted
4.	Computer	2.81	1.27	2.66	1.26	Accepted
5.	Slide projector	1.94	0.90	2.16	1.11	Rejected
6.	Radio	2.09	0.97	2.35	1.12	Rejected
7.	Television	2.09	1.23	2.10	1.22	Rejected
8.	Digital camera	2.09	1.14	2.14	1.05	Rejected
9.	Virtual Library	2.24	1.00	2.10	1.01	Rejected
10.	Fax Machine	2.55	0.83	2.52	0.87	Accepted
11.	Camcorder	2.46	0.79	2.30	0.75	Rejected
12.	Multimedia	2.08	0.73	2.27	0.80	Rejected
13.	Language Library	2.43	0.74	2.35	0.65	Rejected
14.	CD Rom	2.67	0.81	2.73	0.72	Accepted
15.	CD RW	2.34	1.11	2.26	1.07	Rejected
16.	DVD Rom	2.67	0.81	2.73	1.72	Accepted
17.	DVD RW	1.97	0.90	2.12	0.03	Rejected
18.	M.P.9	2.05	0.83	1.88	1.68	Rejected
19.	Audio Cassette Player	2.25	1.13	2.11	1.70	Rejected

Table 2 shows that computer; internet, fax machine and CD Rom are the facilities that are adequate to some extent in the Universities in South Eastern Nigeria. This is because the mean scores are above 2.50 all other items are rejected because they fell below 2.50.

Hypotheses

Hypotheses 1

There is no significant different between the mean opinion scores of lecturers and students on the extent to which ICT facilities are available in the universities in South Eastern Nigeria.

Table 3: z-test of Difference between the Mean Scores of Lecturers and Students on the Extent to which ICT facilities are Available in the universities in South Eastern Nigeria.

	N	X	SD	P	Zeal	z-erit	Decision
Lecturers	127	39.2	10.4	0.05	1.86	1.96	Accept hypothesis
Students	1446	41.2	10.2				

Legend SD = Standard deviation

 z-cal = Calculated z value

 z crit = Critical or table z value

Table 3 indicates that the critical or table value of z for a two test at the 0.05 level of significance is #1.96. Since the calculated value of z (1.86) is less than the critical value of z (#1.96), we fail to reject the null hypothesis which states that there is no significant difference between the mean opinion of the students and lecturers on the extent to which ICT facilities are available in their universities.

Hypothesis 2

There is no significant difference between the mean opinion scores of lecturers and student 0 the adequacy of ICT facilities in Universities South Eastern Nigeria.

Table 4: z-test of Difference between the Mean Opinion Scores of Lecturers and students on the Adequacy of ICT facilities in Universities South Eastern Nigeria

	N	X	SD	P	Zeal	z-erit	Decision
Lecturers	122	43.5	8.4	0.05	0.52	1.96	Accept hypothesis
Students	1446	43.1	8.3				

Table 6 indicates that critical or table value of z for two tail test at 0.05 level of significance is #1.96. Since the calculated value of z (0.52) is less than the critical value z (#1.96), we also fail to reject the null hypothesis which states that there is no significant difference between the opinion of lecturers and students on the adequacy of ICT facilities in Universities South Eastern Nigeria.

8. Summary of Findings

Based on the data analyzed, the following findings were made:-

1. The following ICT facilities are available in the Universities in South Eastern Nigeria: Computer and DVD RW.
2. The ICT facilities that were found fairly adequate in the South Eastern Nigerian Universities are computer, fax machine, CD ROM and internet.
3. There was no significant difference between the opinion of lecturers and students on the extent to which ICT facilities are available in the Universities in South Eastern Nigeria.
4. There was no significant difference between the opinion of lecturers and students on the adequacy of ICT facilities in the Universities in South Eastern Nigeria.

9. Discussions:

Results indicate that ICT facilities available in the universities in South Eastern Nigeria are computer and DVD-RW out of 19 items used for the study. This gave a clear indication of the fact that most ICT facilities are not available in the Universities under study.

Contradicting the above finding, Nwachukwu (2008) observes that ICT came into existence in Nigerian Universities in the early 1963 and since then have been available for use to facilities teaching/learning delivery. In support of the above, Ajayi (2002), Ajayi (2002) & Tokuji (2009) are of the feeling that ICT have been available for use in teaching, learning, and researches in Nigerian Universities for a long time. They further stress that ICT are available for use in content provision, administration, operational management, collection dissemination and exchange of information, support for conduct and management research.

Additionally, Bahrudin, Mohamed & Muhammad (2001) emphasized that the use and availability of ICT offer a wide array of choices and innovative ways that is now mostly absent in the traditional classroom.

Morris (1996) expresses his view that the production of teaching materials could be enjoyed nation wide by academic staff participation, irrespective of their location.

Similarly, Ajayi (2002) maintains that ICT are available and used by lecturers to support traditional instruction. According to him, lecturers use ICT to enrich the curricula. He opines that ICT available are used for the development as a tool.

Findings reveal that the ICT facilities found fairly adequate in the South-Eastern Nigerian Universities are Computer, Fax machine, CD Rom and internet. Corroborating the above, Peken (2000) observes that adequacy of information technology and media have become indispensable tools in the education industry, teaching/learning; institutions whether distance education or conventional schools. In the same vein, Peterson (1992) & National Policy on Education (2004) assert that an educational system can only be considered valued, based on the quality of ICT facilities available enough to provide effective teaching and learning.

10. Conclusion

Based on the results of this study, it will be necessary to conclude that the uses of ICT facilities are flourishing in the universities, there is awareness on the use of ICT facilities in the universities because of the fact that it speeds up administrative process, removes burden and increases output. Giving the above scenario, it is therefore necessary that the impediments be reduced more and up to date equipment acquired so that the purpose who informs the acquisition of these materials will be fully realized.

11. Recommendations

Based on the results of this study, the following recommendations emerged:

- i. Efforts should be made by the universities in the South East Nigeria to provide more ICT facilities. This will make studies more practical and result oriented.

- ii. Efforts should be made by the universities to provide adequate state of the arts ICT facilities in the universities in South Eastern Geo-political zone of Nigeria.
- iii. There should be general re-orientation of female students and lecturers on the use of ICT facilities.

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